

INCH POUND

MIL-PRF-1/334C
1 October 2003
SUPERSEDING
MIL-PRF-1/334B
10 July 1998

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING TYPE 2C53

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the electron tube described herein shall consist of this document and the latest issue of MIL-PRF-1

DESCRIPTION: High-Mu triode.

Outline - - - See figure 1.
Base - - - B8-26.
Cap - - - C1-1.
Envelope - - - T9.
Cathode - - - Coated unipotential.

Base connections:

Pin no.	1	2	3	4	5	6	7	8	Cap
Element	sd and base sleeve	h	nc	nc	g	nc	h	k	a

ABSOLUTE-MAXIMUM RATINGS:

Parameter:	Ef	Eb	Ec	Pp	Ehk	Rk	Alt
Unit:	V	V dc	V dc	W	v	Ohms	ft
Maximum:	6.9	8,000	-200	12	300	- - -	note 1
Minimum:	5.7	- - -	- - -	- - -	- - -	- - -	note 1
Test conditions:	6.3	8,000	0	- - -	300	9,600	- - -

GENERAL:

Qualification - Required.

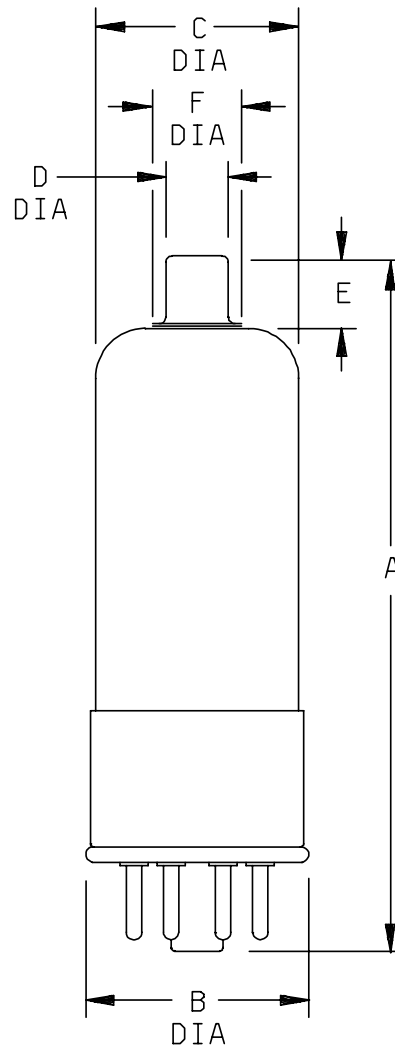
MIL-PRF-1/334C

TABLE I. Testing and inspection.

Inspection	Method	Conditions	Acceptance level (see note 4)	Symbol	Limits Min	Limits Max	Unit
<u>Conformance inspection, part 1</u>							
Total grid current	1266	Eb = 6,000 V, see note 2	0.65	Ic	0	-0.5	μA dc
Emission	1231	Eb = Ec = 30 V dc, see note 2	0.65	Is	32	---	mA dc
Electrode current (cathode)	1256	T = 60; Eb = 6,000 V, see note 3	0.65	Ik	0.9	1.6	mA dc
Short and discontinuity detection	1201		0.4	---	---	---	---
<u>Conformance inspection, part 2</u>							
Heater current	1301		---	If	275	325	mA
Heater-cathode leakage	1336		---	Ihk	---	30	μA dc
Transconductance	1306	Eb = 1,500 V dc; Ec = -1 V dc; Rk = 0	---	Sm	675	1,125	μmhos
Amplification factor	1316	Eb = 1,500 V dc; Ec = -1 V dc; Rk = 0	---	Mu	380	520	---
Direct-interelectrode capacitance	1331	No shield	---	Cgp Cin Cout	0.60 4.0 1.2	0.90 6.0 2.6	pF pF pF
Insulation of electrodes	1211		---	---	---	---	---
Low-frequency vibration	1031	Eb = 300 V dc; Ec = 0; Rp = 10,000 Ω	---	Ep	---	200	mV ac
Base pin solder depth	1111		---	---	---	---	---
Secureness of base, cap, or insert	1101		---	---	---	---	---
Permanence of marking	1105		---	---	---	---	---
<u>Conformance inspection, part 3</u>							
Life-test provisions	---	Group C; Ehk = 300 V	---	---	---	---	---
Life-test end point (500 hours)	---	Electrode current (cathode)	---	Ik	0.75	---	mA dc

NOTES:

1. See "Reduced pressure (altitude) rating," and altitude maximum peak voltage.
2. This test to be performed at the conclusion of the holding period.
3. Initial arcing may be tolerated, but tubes shall be free of arcing at the conclusion of the test.
4. This specification sheet uses accept on zero defect sampling plan in accordance with MIL-PRF-1, table III.



Dimensions in inches with metric equivalents (mm) in parentheses.		
Ltr	Minimum	Maximum
Conformance inspection, part 2		
A	3.500 (88.90)	3.875 (98.43)
B		1.312 (33.32)
Conformance inspection, part 3 (periodic-check)		
C	1.062 (26.97)	1.188 (30.18)
D	0.355 (9.02)	0.365 (9.27)
E	0.406 (10.31) Nominal	
F	0.420 (10.67) Nominal	

FIGURE 1. Outline drawing of electron tube type 2C53.

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

(Project 5960-3700)

Review activities:

Army - MI
Navy - AS, CG, MC, OS
Air Force - 19, 99